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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,585	09/17/2003	Hiroshi Masuya	81751.0066	3682
26021	7590	11/04/2004	EXAMINER	
HOGAN & HARTSON L.L.P. 500 S. GRAND AVENUE SUITE 1900 LOS ANGELES, CA 90071-2611			IM, JUNGHWA M	
			ART UNIT	PAPER NUMBER
			2811	

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/664,585	Applicant(s) MASUYA, HIROSHI	
	Examiner Junghwa M. Im	Art Unit 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 12-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-11 in the reply filed on August 13, 2004 is acknowledged.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites a limitation of "the inner lead further has a second sloping section sloping downward and outward from a higher end of the sloping section." However, the instant invention discloses that the outer lead has a second sloping section sloping downward and outward from a higher end of the sloping section.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-6, 8 and 10-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Liu (US 6316727).

Regarding claim 1, Fig. 2 of Liu shows a semiconductor device comprising:
an inner lead [232] having a sloping section sloping upward and outward;
a die pad [210];
a semiconductor chip [222, 224] having an electrode [214, 223] and bonded to the die pad;
a wire [220, 225] electrically connecting the inner lead to the electrode;
a sealing section [230] sealing the inner lead, the semiconductor chip, and the wire;
and
an outer lead [234] extending outward from the sealing section.

Regarding claim 3, Fig. 2 of Liu shows the semiconductor device wherein the inner lead further has an end section extending inward from a lower end of the sloping section in a horizontal direction.

Regarding claim 4, Fig. 2 of Liu shows the wire is bonded to the end section.

Regarding claim 5, insofar as understood, Fig. 2 of Liu shows the outer lead further has a second sloping section sloping downward and outward from a higher end of the sloping section.

Regarding claim 6, Fig. 2 of Liu shows the inner lead further has a portion extending in a horizontal direction and connected to the outer lead.

Regarding claim 8, Fig. 2 of Liu shows a bonding position between the wire and the inner lead is lower than the position of the electrode.

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Regarding claim 10 , Fig. 2 of Liu shows a circuit board [236] on which the semiconductor device is mounted.

Regarding claim 11 , Fig. 2 of Liu shows an electronic instrument comprising the semiconductor device [col. 3, line 64].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu in view of Sakamoto (US 6169323).

Regarding claim 2, Fig. 2 of Liu shows the most aspect of the instant invention except “the wire is bonded to the sloping section.” Fig. 4 of Sakamoto shows the wire is bonded to the sloping section of the inner lead.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the teachings of Sakamoto into the device of Liu in order to have the wire bonded to the sloping section of the inner lead to accommodate the design specification.

Regarding claim 7 , Fig. 2 of Liu shows a bonding position between the wire and the inner lead is lower than the position of the electrode

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Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liu in view of Glenn (US 6143981).

Regarding claim 9, Fig. 2 of Liu shows the most aspect of the instant invention except “a surface of the die pad opposite to the semiconductor chip is exposed from the sealing section..” Fig. 9 of Glenn shows a surface of the die pad opposite to the semiconductor chip is exposed from the sealing section.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the teachings of Glen into the device of Liu in order to have a surface of the die pad opposite to the semiconductor chip exposed from the sealing section to reduce the package size.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Junghwa M. Im whose telephone number is (571) 272-1655. The examiner can normally be reached on MON.-FRI. 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C Lee can be reached on (571) 272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jmi



EDDIE LEE
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